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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/734,393

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Sundaram Ravikumar

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EXAMINER

FOSTER, MARLEE CHRISTINE

ART UNIT

PAPER NUMBER

3731

DATE MAILED: 10/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/734,393	Applicant(s) RAVIKUMAR, SUNDARAM	
	Examiner Marlee C. Foster	Art Unit 3731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 12-20, 22, 23, 25-27, 29-32 is/are rejected.
- 7) ☒ Claim(s) 10, 11, 21, 24 and 28 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10 May 2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 5 is objected to because of the following informalities: "said second member" lacks antecedent basis. Appropriate correction is required.
2. Claims 6, 9, 20, and 23 are objected to because of the following informalities: "snuggly" should state "snugly". Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 3, 4, 14, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Bonutti et al. (US Patent 6,932,835). Bonutti et al. disclose, in figure 18, a suture securing device with first and second annular elements that are rotatable with respect to one another (col. 18, lines 24- 28). Bonutti et al. does not show the device with grooves that extend parallel to the central axis, but discusses that such grooves may be provided in the cylinder (col. 18, lines 54-56). As shown in Figure 20, the suture material is wrapped around a central member so that it is secured in the device.

Bonutti et al. disclose the device composed of a deformable polymer so that when the device is crimped, the suture material is held securely within it (col. 13, lines 4-7). Regarding claim 14, Bonutti et al. disclose the device composed of a bioabsorbable material (col. 11, lines 49-50).

In Figure 26, Bonutti et al. show a retaining button (602) designed to hold the device in place.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 5-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bonutti et al. (US Patent 6,932,835) in view of Goble et al. (US Patent 4,738,255). In this particular embodiment, Bonutti et al. does not show the device with grooves that extend parallel to the central axis, but discusses that such grooves may be provided in the cylinder (col. 18, lines 54-58). However, Bonutti et al. lack a central member that rotates freely with respect to the second member, including a recess that is accessible through a port extending along the central axis.

Goble et al. teach a suture anchor system comprising a cylinder with a mandrel (Figure 2, 72) that fits snugly into a cylinder disposed about the central axis. The

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mandrel in Goble's device extends through the cylindrical core to move independently with respect to the cylinder and element to which it is affixed. The mandrel allows for placement of the suture anchor when the applicator is detached from the tissue. The tension on the suture retaining device can be adjusted through a small opening, without inserting the full applicator into the incision.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the device of Bonutti with the elements taught in Goble et al. to rotate the elements in the suture retaining device.

8. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bonutti et al. (US Patent 6,932,835) in view of Burke (US Patent 5,720,747). Bonutti et al disclose a suture securing device with first and second annular elements that are rotatable with respect to one another. However, Bonutti et al. fail to specifically disclose the rotation between the elements. .

Burke teaches an apparatus for crimping a surgical wire, and further discloses ratchet mechanisms in figures 1 and 2. The ratchet mechanism acts to rotate two adjoining elements in a single direction using a pawl with angled teeth. The ratchet mechanism allows the device to apply increased tension to the suture, while it will grip the suture thread a specific point to prevent slippage and maintain the existing tension.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the device of Bonutti et al with the device of Burke to maintain the tension between the rotatable elements that hold the suture thread.

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9. Claims 17, 18, 19, 20, 22, 23, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bonutti et al (US Patent 6,932,835) in view of Goble et al. (US Patent 4,738,255). As disclosed in the embodiment of Figure 30 and 31, Bonutti et al. disclose two elements with an annular recess and a cavity. Bonutti et al. disclose a button affixed to the suture material thread (col. 28, lines 30-34). However, Bonutti et al lack a central member coupled to the second element that rotates freely, and a rotating member fit into cavity of the first element. .

Goble et al. teach a suture anchor system comprising a cylinder with a mandrel (Figure 2, 72) that fits snugly into a cylinder disposed about the central axis. The mandrel in Goble's device extends through the cylindrical core to move independently with respect to the cylinder and element to which it is affixed. The mandrel allows for placement of the suture anchor when the applicator is detached from the tissue. The tension on the suture retaining device can be adjusted through a small opening, without inserting the full applicator into the incision.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the device of Bonutti with the elements taught in Goble et al. to rotate the elements in the suture retaining device.

10. Claims 26, 27, and 29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bonutti et al. (US Patent 6,932,835) in view of Burke (US Patent 5,720,747). Bonutti et al. disclose a method of using a bioabsorbable suture securing device with first and second annular elements that are rotatable with respect to one

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another. However, Bonutti et al. fail to specifically disclose the rotation between the elements.

11. Burke teaches a method of using ratcheting devices to rotate two adjoining elements in a single direction using a pawl with angled teeth. The ratchet mechanism allows the device to apply increased tension to the suture. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the device of Bonutti et al with the device of Burke to maintain the tension between the rotatable elements that hold the suture thread.

12. Regarding claims 15 and 31, Bonutti et al. disclose the claimed invention except for the specific diameter of the suture. It would have been an obvious matter of design choice to modify the design of Bonutti to accommodate the appropriate diameter of the suture, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

Allowable Subject Matter

13. Claims 10, 11, 21, 24, and 28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hayhurst (4,741,330), Sauer et al. (5,616,131), and Jamiolkowski et al. (5,681,351) disclose suture anchor devices with similar cylindrical mechanisms.

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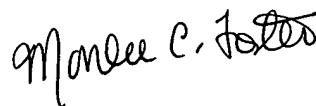
Brown et al. (5,131,534) disclose a similar suture dispenser reel, while Ganaja et al. (6,125,574) disclose fishing line fasteners with similar characteristics.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marlee C. Foster whose telephone number is (571) 272-5072. The examiner can normally be reached on Monday to Friday 8:00 to 5:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anhtuan Nguyen can be reached on (571) 272-4963. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MCF
September 20, 2006



Marlee C. Foster
Examiner
Art Unit 3731



ANHTUAN T. NGUYEN
SUPERVISORY PATENT EXAMINER
9/16/06